

Exhibit G

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TYLER DIVISION**

SOVERAIN SOFTWARE LLC,

Plaintiff,

v.

CDW CORPORATION ET AL.,

Defendants.

C.A. No. 6:07-cv-511-LED

**REBUTTAL REPORT OF PLAINTIFF'S EXPERT
MICHAEL I. SHAMOS, PH.D, J.D. CONCERNING VALIDITY**

BACKGROUND & QUALIFICATIONS

1. My name is Michael I. Shamos. I hold the title of Distinguished Career Professor in the School of Computer Science at Carnegie Mellon University in Pittsburgh, Pennsylvania. I was a founder and Co-Director of the Institute for eCommerce at Carnegie Mellon and I now direct a graduate degree program in eBusiness Technologies.

2. I currently teach graduate courses at Carnegie Mellon in Electronic Commerce, including eCommerce Technology, Electronic Payment Systems, Electronic Voting and eCommerce Law and Regulation and have done so since 1999. In Fall 2009 I am teaching course entitled Law of Computer Technology.

3. From 1979 to 1987 I was the founder and president of two computer software development companies in Pittsburgh, Pennsylvania: Unilogic, Ltd. and Lexeme Corporation.

4. I am an attorney admitted to practice in Pennsylvania and have been admitted to the Bar of the U.S. Patent and Trademark Office since 1981. I have not been asked to offer any opinions on patent law in this action.

5. I have previously testified in a number of cases concerning computer software, intellectual property, electronic payment, electronic voting, electronic auctions and electronic commerce matters. My résumé in Exhibit 2 contains a list of cases in which I have testified in the last ten years.

6. I have been retained by Jones Day, counsel for Soverain Software LLC (“Soverain”), as a technical expert in this action. I have been asked to review and offer rebuttal to the “Expert Report of Edward R. Tittel,” dated July 23, 2009 (the “Invalidity Report” or the “Tittel Report”), and “Newegg Inc.’s Supplemental Invalidity Contentions,” dated April 30, 2009 (the “Contentions”). In connection with my analysis, I have reviewed the asserted U.S. Patents 5,715,314, 5,909,492, and 7,272,639 (the “Patents”) and their prosecution histories as well as the materials listed in Exhibit 1 hereto.

7. I have been engaged through Expert Engagements LLC, a company of which I am an owner. Expert Engagements bills \$525 per hour for my services, of which I receive \$472.50. My compensation is not dependent upon the outcome of this case.

8. I have been asked by counsel for Soverain to offer rebuttal to the opinions expressed in the Tittel Report.

9. I may offer opinions as outlined in this Rebuttal Report concerning the claims of the Patents and their novelty and non-obviousness in light of the prior art, as well as any topics covered in the Tittel Report and the Contentions. I may present my opinions in the form of a tutorial or otherwise and reserve the right to respond to any evidence Defendant Newegg Inc. (“Newegg”) may present concerning the subject matter of the Report and the Contentions.

10. It may be necessary for me to supplement this Report based on material that subsequently comes to light in this case, and I reserve the right to do so. I may be asked to present demonstrative evidence at trial, and I reserve the right to do so.

11. It may be necessary for me to revise or supplement this Report, or submit a supplemental or responsive report, based on any supplemental or responsive report of Newegg, and I reserve the right to do so.

l. Mr. Tittel has insinuated that the Patents fail to comply with the best mode requirement, but has not offered any factual support for such an opinion, and has not identified any specific claims relating to any such failure.

m. Mr. Tittel has not shown by clear and convincing evidence that any claim is invalid, so any opinion he might offer on invalidity is not supported by his report.

17. Because of the inadequacy of the Tittel Report, Plaintiff apprehends that Defendant may attempt to rely instead on the Contentions, which is why I have been asked to rebut them as if they constituted an expert opinion.

18. Statements of the following type are interspersed throughout the Contentions: “Anticipated by CompuServe as disclosed in Bowen and Peyton, ‘How to Get the Most Out of CompuServe, 4th Ed.’ (Bantam Books, 1989), and Ellsworth and Ellsworth, ‘Using CompuServe’ (Que Corporation, March 1994), and Campbell, ‘CompuServe CIM Running Start,’ (Sybex, 1993).” Anticipation cannot be shown by combining references – such a demonstration would be for obviousness. It is possible that Newegg may try to argue that the documents collectively describe a system that was in public use. However, there is no authentication that the documents accurately reflect any particular system that ever existed or was in public use at any time.

A PERSON OF ORDINARY SKILL IN THE ART

19. The Tittel Report does not address the level of skill of one of ordinary skill in the art, a necessary predicate to any discussion of obviousness. The Tittel Report further does not even attempt to define what the relevant art might be.

20. The ’314 and ’492 Patent pertain to networked sales systems, which lie in the field of electronic commerce and client/server computing.

21. The ’639 Patent pertains to session maintenance in client/sever computing.

22. In 1994, one of ordinary skill in the art to which the ’314 and ’492 Patents pertain would have had at least three years of experience in software development, including experience

with client/server computing, hypertext and key Web technologies, namely HTTP, URLs and HTML and their associated specifications and electronic commerce.

23. In 1994, one of ordinary skill in the art to which the '639 Patent pertains would have had at least three years of experience in software development, including experience with client/server computing, hypertext and key Web technologies, namely HTTP, URLs, HTML and their associated specifications.

THE PATENTED INVENTIONS

24. Mr. Tittel appears to take the position that any online sales system that allows a customer to order a product remotely anticipates all the asserted claims of the '314 and '492 Patents. Both Patents incorporate by reference the disclosure of Gifford U.S. Patent 5,724,424¹. The Gifford disclosure acknowledges that prior art online sales systems existed: "These problems have been approached in the past by network based sales systems wherein, for example, each merchant maintains an account for each user. A user must establish an account with each merchant in advance in order to be able to utilize the merchant. The prior art network based sales systems are not designed to allow users to use their existing credit card and demand deposit accounts for payment, nor are they designed to allow for programs to be included in digital advertisements." Gifford '424 Patent 1:41-49. Clearly the Applicants were not attempting to patent the concept of online sales systems generally, but made inventions that improved on prior art sales systems. The Gifford disclosure even cites to the 1986 "CompuServe Information Service Users Guide" of CompuServe International, which describes one of the very systems Newegg now claims anticipates certain Asserted Claims.

25. Among the innovations of the '314 and '492 Patents is the shopping cart. Prior art system functioned on the basis of what were called "order forms." A terminal connected to a central computer, usually via a dialup telephone connection, would present such a form. The form could be filled in by the user and ultimately submitted to become an order. See, e.g.,

¹ What is specifically mentioned in the specifications as being incorporated by reference is the disclosure of U.S. Patent Application Ser. No. 08/168,519. The issued Gifford patent arose from a continuation of that application, hence has the same disclosure.

Ellsworth, p. 376: “Press R to continue browsing the store in which you just placed the order. You can place as many orders in the store as you want. When you are finished shopping in that store, type **checkout**. An electronic order form appears.” [emphasis in original]. Ellsworth here discloses nothing that could be considered the “shopping cart” of the claims under the Court’s construction.

26. An order form is not a shopping cart. The shopping cart is a dynamic object to which messages are sent and which performs various operations on receipt of such messages. For example, when items are added or deleted, the shopping cart can keep track of the price of all of the items, apply discounts and promotions and calculate shipping charges. If the user does not buy the items in the cart at one session, the cart remains stored so the customer can resume shopping at a later date, possibly months later. It is the storage of the shopping cart that permits persistence of information. The shopping cart of the claims requires storage, which may occur on either the buyer or the server computer, or both. In any of these cases, storing the cart allows resumption of shopping at a later time.

27. The prior art systems did not use or suggest shopping carts. The order form of CompuServe was not persistent. If a user logged off without buying anything, he could not log on again and continue shopping from the same point. If a user’s connection to CompuServe was broken, he likewise could not resume the shopping session because information about the user’s selection of products was not stored at either the buyer computer or the server. This demonstrates that there was no stored shopping cart in prior art order form systems.

28. Because the prior art systems did not have shopping carts, they perforce could not have shopping cart computers.

29. The early prior art systems cited by Newegg, e.g. CompuServe and PRODIGY, did not even have buyer computers. The buyer would sit at what is referred to as a “dumb terminal,” which did not need to have any processing capability at all, beyond the ability to send and receive characters. A “dumb terminal” is one that does no data processing other than that necessary to generate screen displays and receive user input. Even later versions of these

system, which could actually be accessed by PCs, only did so in “terminal emulation” mode, in which the PC was dumbed down to function as a dumb terminal. Mr. Tittle makes reference to the Trevor Report, which was generated in connection with prior litigation concerning certain of the Patents. The screenshots in the Trevor Report demonstrate that the prior art systems relied upon by the Tittel Report and the Contentions were terminal emulation systems. Therefore, the “buyer computers” of the Patents, which the claims require to be programmed in certain ways, did not exist in the CompuServe and PRODIGY systems. Even when CompuServe and PRODIGY became accessible over the Internet, they did not use a buyer computer because they were still accessed by terminal emulators.

30. The '639 Patent addresses a problem that was long lamented in Web-based system but had never been solved. The stateless nature of the HTTP protocol made it very difficult for merchants to develop Web-based sales systems. Each request to a merchant server was independent, so there was no effective way to collate requests and identify them as relating to the same purchase. There was considerable debate around the time the parent of the '639 Patent was filed about how to simulate state in a stateless protocol. However, even being able to maintain state does not by itself solve the merchants' problem of relating individual messages to the same transaction.

31. There was also debate about how to capture the notion of a “session” in a stateless protocol such as HTTP. In CompuServe and PRODIGY, there is no question when a session begins and ends. Since each telephone line was dedicated to a single modem at the receiving end, every communication along that line belonged to the same session without the need to identify the session. A session began when the user logged in and ended when the user logged out. A session could also end if the connection were dropped. In HTTP, there is no inherent notion of a session. In browsing activity it is not clear when a “session” begins. Is the first visit to the server today? What happens if I visit amazon.com and look at a book today without buying, and then visit amazon.com again tomorrow (or next month) and buy it? Are those visits part of the same session?

to filing the inventors may have had code modules that “represent a much more professional and commercial coding effort than those files included as Appendix F in the ’314 patent” is simply irrelevant. On the other hand, the Report contains no analysis of the patent drawings, or the corresponding written description, or how they relate to any claim element, which would be highly pertinent to a best mode analysis. Specifically, the report does not even suggest that the Patents would not teach one of skill in the art how to practice the claimed invention. Indeed, such a suggestion would directly contradict a main theme in the Tittel Report, that given the “tools and techniques” allegedly known by “competent Web developers,” various limitations in the claims of the ’314 patent would have been obvious.

37. Mr. Tittel does not recognize the fact that the best mode requirement pertains to “the best mode contemplated by the inventor of carrying out his invention.” The “invention” is defined by the claims. It is not relevant if the inventor was aware of possible unclaimed features of his reduction to practice. Thus, Mr. Tittel’s report cannot support any allegation of a failure to comply with the best mode requirement of Section 112 for the Asserted Claims.

PRINCIPAL ITEMS OF CITED PRIOR ART

38. Mr. Tittel and the Contentions rely on certain items of alleged prior art to show invalidity. Some of these items are not prior art because they do not predate the claims in question; others are not prior art because they do not qualify under any provision of 35 U.S.C. §102. For example, the following items are not prior art: Mr. Tittel’s *CGI Bible*, Mr. Tittel’s *Building Web Commerce Sites*, Netscape 0.9b (for most of the Asserted Claims), and the references cited in endnotes (ii), (iii), (v), (vi), the Wikipedia article mentioned in (viii), and (ix).

39. Furthermore, Mr. Tittel and the Contentions misapprehend the disclosures of the prior art and present them in a fashion that is not only incorrect, but fails to conform to the Court’s claim constructions.

CompuServe

40. As explained above, CompuServe allowed users to buy products online, but was not a shopping cart system.

41. Newegg cited more than 964 pages of descriptive material concerning CompuServe in the form of at least two books, including one by Bowen & Peyton and one by Ellsworth. Both of them are introductory guides for CompuServe users. Neither one discloses any details of the architecture of the CompuServe system, the contents of any messages exchanged between the terminal and the server, or any information whatsoever about the internal structure of the server, the databases it may or may not have access to, or the kinds of processing take place on the server beyond what might be inferred from a description of the screens that are presented to the user.

42. I note that in the 964 pages of reference, the term “shopping cart” is never used.

43. The Ellsworth book is dated 1994, which on its face entitles it only to a date of December 31, 1994. This is after the date of conception and after the date of reduction to practice of all the claims of the '492 Patent and after the filing date of the '314 Patent. Therefore, Ellsworth is not prior art as to these Patents.

44. The Tittel Report and the Contentions contain pages of supposition about what might have been happening in CompuServe, but offer no evidence to support these suppositions.

45. The fact that Mr. Tittel may have personally purchased items on CompuServe is not sufficient to establish the invalidity of any Asserted Claims. Even if Mr. Tittel did make a purchase, he would have no knowledge as to the content of any messages transmitted, where any data might have been stored, or how any data was processed. Indeed, he does not assert that he has any actual knowledge of such facts.

PRODIGY

46. PRODIGY allowed users to buy products online, but was not a shopping cart system. It relied on dumb terminals and terminal emulators in the same fashion as CompuServe. While the PRODIGY reference mentions “the ‘smart’ PRODIGY software on your home computer,”

86. Trewitt does not disclose “a user selection of a hyperlink associated with a product desired to be purchased,” “an identifier of a purchaser of the item,” “retrieving additional information previously stored for the purchaser identified by the identifier in the received request,” or a “purchase price of the product,” as recited in claim 62.

87. Trewitt does not disclose “validating the session identifier appended to the service request” and “servicing the service request if the appended session identifier is valid” as recited in claim 78.

THE REEXAMINATIONS

88. The '314 and '492 Patents have been reexamined by the PTO. The patentability of certain of the Asserted Claims was confirmed and the remaining Asserted Claims were newly issued upon reexamination.

89. Trewitt and Viescas were considered during reexamination of the '314 Patent. CompuServe (a different reference describing CompuServe) was considered during the original prosecution of the '314 Patent.

90. Trewitt and Viescas were considered during reexamination of the '492 Patent. CompuServe (a different reference describing CompuServe) was discussed by Applicants during the original prosecution of the '492 Patent (through the incorporation by reference of the disclosure in Gifford '424). Gifford '424 itself was considered during the original prosecution of the '492 Patent.

91. CompuServe, Montulli '592, Gifford '424, Johnson '008, Trewitt and Viescas were considered during the original prosecution of the '639 Patent. Kerberos was also considered, although not the Steiner reference itself. However, the Kerberos references cited disclosed at least as much about Kerberos as Steiner.

92. All Asserted Claims of the '314 and '492 Patents were confirmed over these references and all the art cited by Newegg was before the Patent Office at some time and in some form prior to issuance of the reexamination certificates.

93. The material cited in the reexaminations of the '314 and '492 Patents was considered during the prosecution of the '639 Patent.

REBUTTAL TO THE TITTEL REPORT AND THE CONTENTIONS

94. Exhibit 3, which is an integral part of this report, contains a claim chart in the form of a spreadsheet. The rows correspond to Asserted Claims and their elements. The columns correspond to the references and combinations cited in the Tittel Report and the Contentions. Each column from the Tittel Report and the Contentions is followed by a rebuttal column in which I demonstrate that the corresponding assertion of invalidity is incorrect.

95. It can be seen from the chart in Exhibit 3 that Newegg has not demonstrated the invalidity of any Asserted Claim.

SECONDARY CONSIDERATIONS OF NON-OBVIOUSNESS

96. Neither the Tittel Report nor the Contentions address secondary considerations of non-obviousness.

97. For example, I understand that the importance of the patented technology was recognized in a number of mainstream publications, including *The Wall Street Journal* and the *New York Times*. Notably, according to a book coauthored by Mr. Tittel himself, Open Market (a predecessor to Sovereign and to whom the asserted patents were originally assigned) was “a leader in electronic commerce products since early 1994” and its “software solution is regarded as one of the most viable for businesses wanting to establish an online commerce presence.” (Tittel et al., *Building Web Commerce Sites*, at 79, 157.) The authors note in particular how Open Market’s software “functions with all types of browsers, all varieties of payment types, and all security protocol formats.” (Id. at 157.) Open Market’s online commerce software solutions were implemented in commercial products, such as Transact, which I understand embody all asserted claims. I understand from document production in the case and from Mr. Nawrocki’s expert report that further evidence of the recognition received by the patented technology, as embodied by the Transact product, is in the form of awards such as the Intranet Excellence Award presented by Networld+Interop. (Nawrocki ¶ 80, referring to SOV0088449.)

98. Furthermore, I understand from Mr. Nawrocki's expert report that the Transact product embodying the patented technology was commercially successful. For example, in early 1998 Transact was in use by over 1,000 businesses in more than 25 countries. (Nawrocki ¶ 80.) By 1999, an impressive array of companies were using Open Market's software, including AT&T, Time Warner's Pathfinder, Tribune Company, Business Week, USA Today, Milacron, and Acer America. (Id.) Further, I understand that Transact's consumer list included more than 50 commerce service providers (including Barclay's Bank and First Union), five of the top six subscription sites (including Standard & Poor's, Business Week, and Playboy), and eleven of the world's top fourteen national telephone companies (including AT&T, Bell Emergis, Cable & Wireless, France Telecom, NTT, and SBC). (Id.)

99. I further understand that Newegg itself has had significant commercial success from sales on its online commerce websites, which use Soverain's patented technology. (See Nawrocki ¶¶ 82-83; see generally Grimes.) I also understand that other companies who have copied Soverain's patented technology, including Amazon.com, Inc., Gap Inc., Redcats USA, Inc., Redcats USA, L.P., The Sportsman's Guide, Inc., Systemax Inc., Zappos.com, Inc., and TigerDirect.com, and who have achieved great commercial success selling products over the web, have licensed the Soverain patents. (Nawrocki ¶ 60, and Attachment 8.) Such wide-ranging industry acceptance is an objective indicator that the patented technology was not obvious.

100. As discussed already, in his report Mr. Tittel impermissibly uses hindsight by utilizing the claims themselves as a roadmap for applying prior art rather than combining suggested references to yield the subject matter of the claims. At the 1994-95 timeframe of the inventions, however, ecommerce was nascent, and technology that we may now take for granted was subject to many failed attempts to develop. Thus, prior to the inventions claimed in the Soverain patents, there was a need for an ecommerce system that took advantage of the commercial opportunities of the World Wide Web, allowed for interactive selection of items offered for sale and for the purchase of multiple selected items. Transact, and the patented

technology, provided a powerful end-to-end solution for managing and processing purchases over the Internet. (See e.g., Nawrocki ¶¶ 22-23; Tittel et al., *Building Web Commerce Sites*, at 79, 157.) Further, there was a need for a way for a buyer to quickly and reliably obtain a record of what purchases had been made with his or her account. There also was a need for an efficient way to maintain state in the stateless hypertext transfer protocol and to overcome the deficiencies in the hypertext transfer protocol that hindered its initial use in electronic commerce. The inventions of the Sovereign patents address those needs.


101. For example, others tried for about five years prior to the filing of the applications to develop a convenient method of ordering products over the Web. Some methods did not allow customers to interactively select items to be purchased. Instead, those methods required customers to select all items to be purchased at once, and send an indication of all of the selected items to the server in a single request. The prior art recited in Mr. Tittel's report does not provide complete systems for ecommerce, enabling both product selection and purchase order processing including payment. With regard to the '639 patent, many ignored the problem of maintaining state by using inherently stateful connections (such as direct dialup or telnet) instead of the web. CompuServe and Prodigy fall into this category. As discussed above with reference to the alleged prior art, the claimed inventions proceeded differently from the attempts of others.

102. None of these objective considerations were taken into account in Mr. Tittel's report.

CONCLUSIONS

103. Neither the Tittel Report nor the Contentions had shown by clear and convincing evidence that any Asserted Claim is invalid, either by anticipation or obviousness.

Executed on August 18, 2009, in Pittsburgh, PA.


Michael Ian Shamos, Ph.D., J.D.